

1. *Phragmites australis* (Cav.) Trin. ex Steud.  
 2. *Scirpus americanus* L.  
 3. *Scirpus setaceus* L.  
 4. *Scirpus robustus* L.  
 5. *Scirpus subterminalis* L.  
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4. A recording apparatus provided with a stepping motor as an actuator, comprising: storage means for storing and holding a final exciting phase of said motor at the time of software power off; a sensor for, when predetermined pulses are applied to said motor from a standby position, judging whether the motor moves by the predetermined pulses; and control means for starting excitation from said final exciting phase to apply the predetermined pulses without performing phase alignment of said motor at the time of restarting from a software power off state, normally starting when said sensor judges that the motor moves by said predetermined pulses, and performing the phase alignment of said motor when it is judged that the motor does not move by said predetermined pulses.

5. A recording apparatus provided with a stepping motor as an actuator, comprising: storage means for storing and holding a final exciting phase of said motor at the time of software power off; a sensor for detecting a rotating amount of said motor or an equivalent value which is detectable even in a software power off state; and control means for, at the time of restarting from the software power off state, obtaining an exciting phase compatible with a rotor position of said motor at the time of restarting from data of said rotating amount of the motor and said final exciting

phase detected by said sensor, and starting excitation from said obtained exciting phase without performing phase alignment of said motor.

5           6. The recording apparatus according to any one of claims 1 to 5, wherein said recording apparatus is a serial type recording apparatus.

10           7. The recording apparatus according to claim 6, wherein said stepping motor is a carriage driving motor.

15           8. The recording apparatus according to claim 6, wherein said stepping motor is a printing material conveying motor.

20           9. The recording apparatus according to claim 6, wherein said stepping motor is a printing material sheet supplying motor.

          10. The recording apparatus according to claim 6, wherein said stepping motor is a recording head maintenance mechanism driving motor.

25           11. The recording apparatus according to any one of claims <sup>1-5</sup>~~1 to 10~~, wherein said recording apparatus is an ink jet type recording apparatus.

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5 storage means for storing a final exciting phase  
of said stepping motor at the time of power off of said  
device; and

15           phase alignment means for aligning a mechanical  
phase of said stepping motor and an electrical phase  
stored in said storage means, wherein

14. The recording apparatus according to claim  
25 13, comprising:

another storage means for storing a termination status indicating a presence/absence of abnormality at

the time of power off of said device, wherein

at the time of restarting from the power off state  
of said device, said control means starts the  
excitation of the stepping motor from said final

5 exciting phase stored in said storage means without  
performing the phase alignment by said phase alignment  
means when said another storage means stores a normal  
termination status, and performs the phase alignment by  
said phase alignment means before starting drive of the  
10 stepping motor when said another storage means stores  
an abnormal termination status.

15 15. The recording apparatus according to claim  
14, wherein said control means starts the phase  
alignment by said phase alignment means from said final  
exciting phase stored in said storage means when said  
another storage means stores an abnormal termination  
status.

20 16. A recording apparatus provided with a  
stepping motor as an actuator, comprising:

drive means for changing an exciting phase of the  
stepping motor to step-drive the stepping motor;

25 storage means for storing a final exciting phase  
of said stepping motor at the time of power off of said  
device;

phase alignment means for aligning a mechanical

phase of said stepping motor and an electrical phase stored in said storage means;

a driven member driven by said stepping motor;

5 a sensor for judging whether said driven member moves by predetermined pulses from a standby position of the member; and

control means for starting excitation of the stepping motor from said final exciting phase stored in said storage means to drive said driven member by the  
10 predetermined pulses at the time of restarting from a power off state of said device, normally starting the stepping motor without performing the phase alignment by said phase alignment means when said sensor judges that the driven member is moved by the predetermined  
15 pulses, and performing the phase alignment by said phase alignment means when said sensor judges that the driven member is not moved by the predetermined pulses.

17. A recording apparatus provided with a  
20 stepping motor as an actuator, comprising:

drive means for changing an exciting phase of the stepping motor to step-drive the stepping motor;

a sensor for detecting a value corresponding to a rotating amount of said stepping motor even at the time  
25 of power off of said device;

storage means for storing a final exciting phase of said stepping motor at the time of power off of said

device, a value stored in the storage means being  
rewritten in accordance with the value of said sensor  
at the time of power off; and

5 control means for, at the time of restarting from  
a power off state of said device, starting excitation  
of the stepping motor from the exciting phase rewritten  
and stored in said storage means also at the time of  
power off of said device.

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